

ART. XI.—*Abnormal Development of the Head Appendages in the Crayfish, Parachraeraps bicarinatus Gray.*

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(With Plate XV.).

[Read 12th September, 1918].

The specimen described in the following notes is a small male form of *Parachraeraps bicarinatus*—the common yabbie of our pools and streams. It measures $3\frac{1}{4}$ inches in length, and it shows certain abnormalities regarding the positions of the head appendages. The specimen was handed to me for examination by Dr. Sweet, who thought the irregularities worthy of note.

When viewed from the *dorsal surface* the abnormalities consist of the following points, as shown in Fig. 1:—

(1) The right *eye* appears slightly larger and longer stalked than the left.

(2) The *antennules* are pushed out of position so that both are seen to the right side of the rostrum, the left one being situated above the right.

(3) The exopodites or scaphocerites of the *antennae*, when inclined inwards, are seen to be on a level with the left antennule, and lie one on each side of it. The right one extends slightly more anteriorly than the left. The endopodites of the antennae are on a level with the right antennule.

The head region appears distinctly broader when viewed dorsally than in normal specimens of the same size.

When examined from the *ventral surface* the abnormalities are much more marked (Fig. 2). The most striking point of irregularity lies in the abnormal position of the *mandibles*, the right one being situated at a higher level, i.e., more anteriorly, than the left, it being thus impossible for the two mandibles to bite against one another. The *mandible* of the right side is placed on a level with the *labrum*, instead of posterior to it, and its "teeth" rest against roughnesses on the inner edge of the labrum, which latter is situated entirely on the left side of the head, and *not* in the middle line.

The sternal portion in front of the mouth (*epistoma*) presents a very abnormal appearance. It is practically undeveloped on the

right side, and its anterior limit formed by the *interantennal spine* is inclined over towards the right side.

The *antenna* and the *mandible* are situated much closer to one another on the right side than they are on the left, for not only is the right mandible attached more anteriorly than the left, but also the right antenna is situated more posteriorly than the left. These positions have obviously been taken up owing to the absence of the hard sternal portion on the right side. The *interantennal spine* is broader from side to side, but shorter in length than in a normal specimen, so the distance between the labrum and the tip of the interantennal spine is much shorter than it should be.

The left *antennula* has apparently become pushed away from its own side by pressure of the antenna against it, due to the shifting over of the epistoma to the right side. This has consequently displaced the right antennule and driven it further back, so instead of lying on a level with the left one, it now appears lower down, i.e., more on a level with the antennae.

All other appendages of the body appear to be quite normal.

EXPLANATION OF PLATE XV.

Fig. 1.—Dorsal view of head of crayfish, showing position of antennules.

Fig. 2.—Ventral view, showing positions of the different parts—the first and second maxillae and the first maxillipede are hidden by the second maxillipede.